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| PRE-APPEAL BRIEF REQUEST FOR REVIEW | | Docket Number (Optional) 9301-2IP |
| I hereby certify that this correspondence is being transmitted electronically to the U.S. Patent and Trademark Office on <u>December 19, 2007</u> Signature <u>Susan E. Freedman</u> Typed or printed name <u>Susan E. Freedman</u> | Application Number 10/730,660 | Filed 12/08/2003 |
| | First Named Inventor Peter D. Karabinis | |
| | Art Unit 2618 | Examiner John J. Lee |

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

- applicant/inventor.
 assignee of record of the entire interest.
 See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
 (Form PTO/SB/96)
 attorney or agent of record. 29,614
 Registration number _____
 attorney or agent acting under 37 CFR 1.34.
 Registration number if acting under 37 CFR 1.34 _____

Mitchell S. Bigel
Signature

Mitchell S. Bigel

Typed or printed name

919-854-1400

Telephone number

December 19, 2007

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.
 Submit multiple forms if more than one signature is required, see below*.

*Total of 1 forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Peter D. Karabinis Confirmation No.: 4855
Application No.: 10/730,660 Group Art Unit: 2618
Filed: December 8, 2003 Examiner: John J. Lee
For: SYSTEMS AND METHODS FOR TERRESTRIAL REUSE OF CELLULAR
SATELLITE FREQUENCY SPECTRUM IN A TIME-DIVISION DUPLEX MODE

December 19, 2007

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**REASONS IN SUPPORT OF APPLICANT'S
PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Sir:

This document is submitted in support of the Pre-Appeal Brief Request For Review filed concurrently with a Notice of Appeal for the above-referenced patent application. No amendments are being filed with this Request.

REMARKS

Applicant hereby requests a Pre-Appeal Brief Review (hereinafter "Request") of Claims 1-42 that were finally rejected in the final Official Action mailed November 16, 2007. All of the claims stand rejected under 35 USC §102(e) over U.S. Patent Application Publication 2005/0260948 to Regulinski et al., or under 35 USC 103(a) in view of Regulinski et al. in combination with a secondary reference. Applicant respectfully submits that Regulinski et al. does not describe or suggest an ancillary terrestrial network that uses the same satellite frequency to provide both uplink and downlink communications in a Time Division Duplex (TDD) mode, and that Regulinski et al. actually teaches away from using a given satellite frequency to provide both uplink and downlink communications for an ancillary terrestrial network in TDD mode, as recited in all of the pending independent claims of the present application. Therefore, Applicant respectfully requests review of the present application by an appeal conference prior to the filing of an Appeal Brief.

In particular, as is well known to those having skill in the art, TDD is a scheme in which uplink and downlink transmissions are separated so as to not overlap in time. The use

of a special kind of TDD by an ancillary terrestrial network is recited in detail in each of the independent claims. For example, independent Claim 1 recites:

1. A satellite radiotelephone system comprising:

a space-based component that is configured to receive wireless communications from radiotelephones in a satellite footprint over an uplink satellite radiotelephone frequency and to transmit wireless communications to the radiotelephones over a downlink satellite radiotelephone frequency; and

an ancillary terrestrial network that is configured to transmit wireless communications to, and receive wireless communications from, the radiotelephones over the downlink satellite radiotelephone frequency in a time-division duplex mode. (Emphasis added.)

Thus, Claim 1 recites that wireless communications are both transmitted and received by an ancillary terrestrial network over the same downlink radiotelephone frequency in TDD mode. The remaining independent Claims 8, 15, 22, 29 and 36 contain similar recitations which will not be reproduced herein in the interest of brevity.

The final Official Action appears to erroneously conclude that using a Time Division Multiple Access (TDMA), Frequency Division Multiple Access (FDMA) and/or Code Division Multiple Access (CDMA) protocol, as described in the cited passages of Regulinski et al., equates to using a given frequency to provide both uplink and downlink communications using TDD, as recited in all pending independent claims of the present Application. This is simply not correct.

More specifically, the term TDMA refers to a multiple-access technology that enables multiple users to communicate over a common carrier by allocating different time slots to different users within a transmission frame. The label "TDMA," in itself, implies nothing about the frequencies used to transmit and to receive. TDMA is embodied by the well-known GSM system. The GSM system also embodies the principle of TDD because any given GSM radiotelephone is not allowed to transmit and receive at the same time. However, even though transmitting and receiving in GSM are based upon TDD and TDMA principles, transmitting and receiving in GSM use different, non-overlapping frequency bands. Thus, as is clearly illustrated by GSM, labeling a protocol as TDD and/or TDMA does not imply using the same frequency to transmit and receive. GSM is both TDD and TDMA and uses different frequencies to transmit and receive. Moreover, the term FDMA refers to a multiple access technique that enables multiple users to communicate by allocating different frequencies to different users. Finally, the term CDMA refers to a technique that uses direct sequence

spread spectrum technology to enable multiple users to gain access to a network by allocating different spreading codes to different users.

Thus, although TDMA, FDMA and CDMA can provide various techniques of multiple user access to wireless communications networks, those skilled in the art will appreciate that the labels TDMA, FDMA and/or CDMA do not imply or suggest a requirement that the same frequency is used to provide uplink and downlink communications and may, in fact, imply using different uplink and downlink frequencies. In sharp contrast, the pending independent claims of the present application recite that wireless communications are both transmitted and received by an ancillary terrestrial network over the same downlink satellite radiotelephone frequency in TDD mode.

The cited passages of Regulinski et al. are entirely consistent with the above analysis, and do not suggest the use of a same frequency for transmitting and receiving in TDD, as recited in the present independent claims. In fact, the figures of Regulinski et al. provide a graphic indication that the same frequency is not used. Please note Figures 6, 7, 9 and 10, which show four different embodiments of laying out the satellite and terrestrial uplink and downlink frequency bands. Yet, in every one of these embodiments, the terrestrial downlink frequency band and the terrestrial uplink frequency band are clearly separated from one another and do not overlap in frequency. The use of the same satellite downlink frequency for terrestrial uplink and downlink is not described or suggested.

In fact, Figures 6, 7, 9 and 10 of Regulinski et al. are consistent with the GSM standard, which is used for conventional terrestrial cellular communications, wherein different frequency bands are used for downlinks and uplinks, and the same frequency is not used for both uplink and downlink frequencies in a TDD mode. Paragraph [0180] of Regulinski et al. refers to "certain existing terrestrial networks" as using TDD. But, there is no indication that these networks use the same frequency to both transmit and receive wireless communications, as recited in all of the pending independent claims of the present Application. As was shown above, GSM certainly falls into the category of "certain existing terrestrial networks" that use TDD but GSM does not use the same frequency to transmit and receive.

Thus, although Regulinski et al. appears to recognize the value of configuring a terrestrial network to reuse satellite band frequencies and to provide communications using a variety of protocols, such as GSM, CDMA, FDD and/or TDD, Regulinski et al. does not

appear to recognize the value of configuring the terrestrial network to provide both uplink and downlink communications using the same satellite frequency. All of the Regulinski et al. figures that illustrate frequency reuse by the terrestrial network of satellite band frequencies appear to teach against configuring the terrestrial network to provide both uplink and downlink communications using the same satellite band frequency, as recited in each of the pending independent claims. For at least these reasons, independent Claims 1, 8, 15, 22, 29 and 36 are patentable over Regulinski et al. The dependent claims are patentable at least per the patentability of the independent claims from which they depend.

The "Response to Arguments/Amendment" section of the final Official Action (Pages 2-3) attempts to rebut Applicant's arguments by stating that the USPTO must give claims their broadest reasonable interpretation. Although this is correct, the claim recitations cannot be ignored. The final Official Action summarizes Applicant's arguments at Page 2 as follows:

Re claims 1, 8, 15, 22, 29 and 36: Applicant argues that the teaching of Regulinski et al. (US 2005/0260948) does not teach the claimed invention "an ancillary terrestrial network that is configured to transmit wireless communications to, and receive wireless communications from, **the radiotelephones over** the downlink satellite radiotelephone frequency in a time-division duplex mode". However, the Examiner respectfully disagrees with Applicant's assertion that the teaching of Regulinski does not teach the claimed invention.

The bold language in the above quote was provided in the final Official Action. This emphasis appears to indicate that the Examiner is misconstruing Applicant's argument by emphasizing "**the radiotelephones over** the downlink satellite radiotelephone frequency". Claim 1 does recite that a downlink satellite frequency is used terrestrially, as noted by the Examiner. However, Claim 1 also recites that **the** downlink frequency is used to transmit and receive in TDD, as described at length above. The final Official Action does not appear to recognize this recitation. Similarly, the final Official Action's assertion at the bottom of Page 2 concerning Regulinski et al. Figure 11 also appears to miss the mark, because Regulinski et al. Figure 11 merely indicates that satellite frequencies are shared as between the satellite component and terrestrial component, whereas the claims recite that the terrestrial component also uses the same satellite frequency for both uplink and downlink communications in TDD mode. Finally, as noted above, the fact that Regulinski et al. uses TDMA in some embodiments does not imply that the same frequency is used to transmit and receive

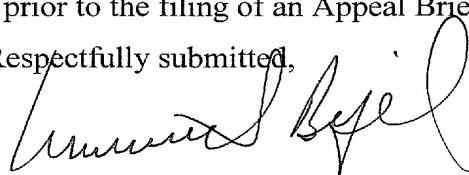
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terrestrial communications, as described above. In fact, as described above, the explicit embodiments of Figures 6, 7, 9 and 10 of Regulinski et al. teach away from using the same frequencies.

In conclusion, as described extensively above, all of the independent claims recite that terrestrial wireless communications are transmitted to, and received from, a radiotelephone over a downlink satellite radiotelephone frequency in a TDD mode. Applicant recognizes that the patentable distinctions rely on the use of a few words in Applicant's claims. Yet, every word of a claim has meaning and cannot be ignored. Applicant had asked the Examiner to suggest amendments to the claim language that might further clarify that the ancillary terrestrial network is configured to transmit wireless communications to and receive wireless communications from the radiotelephones over the same satellite downlink radiotelephone frequency in a TDD mode. No suggestions were made. However, Applicant renews this offer to the Pre-Appeal Review Panel. Applicant is hesitant to make any such changes, because the present claim recitations are concise, consistent with the drawings and specification, and patentably distinguish over Regulinski et al.

For at least the reasons described above, one or more elements needed for a *prima facie* rejection under 35 USC §§102/103 are not present. Therefore, Applicant respectfully request Pre-Appeal Brief Review of the present application and that the rejections be reversed by the Pre-Appeal Brief Review Panel prior to the filing of an Appeal Brief.

Respectfully submitted,



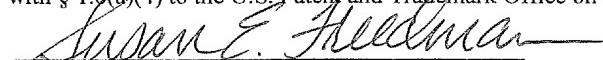
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CERTIFICATION OF TRANSMISSION

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) to the U.S. Patent and Trademark Office on December 19, 2007.



Susan E. Freedman
Date of Signature: December 19, 2007